

## **IN THE CLAIMS:**

### **Amendments to the Claims**

Please cancel claims 1-14 without prejudice or disclaimer of the subject matter thereof, and please add the new claims shown below.

### **Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

15. (new) An optical apparatus comprising:
  - a light source;
  - a metal member disposed on a planar substrate so as to have at least one pointed part with a width which monotonically decreases in a first direction and delimiting a gap in an area where no metal member is disposed, and where no pointed part exists in a second direction which is orthogonal to the first direction;
  - a polarization modulator which switches a direction of polarization of light from the light source between orthogonal directions in which one of the directions is parallel to the first direction and an other direction which is parallel to the second direction;
  - an optical member for irradiating the gap and the pointed part with light from the light source through the polarization modulator;
  - a detector for detecting at least one of light having passed through an object and light which is at least one of reflected and scattered by the object; and
  - a separator for removing a signal caused by background light and for extracting only a signal of near-field light from the signal outputted from the detector by using synchronous signal detection with switching of polarization direction by the polarization modulator.

16. (new) An optical apparatus according to claim 15, wherein an apex angle of the at least one pointed part of the metal member is  $90^\circ$ .

17. (new) An optical apparatus according to claim 15, wherein the object is a recording medium and the metal member having the at least one pointed part disposed on the planar substrate is composed in a planar shape.

18. (new) An optical apparatus that uses near-field light, comprising:

- a light source device;
- a needle type of probe having a part which is covered with at least one metal member and with a sharpened tip part at an end of the probe where a plasmon is excited by the light from the light source device, and an other part at which a nonmetal is exposed at a surface of the probe where substantially no plasmon is excited;
- a sample support for holding a sample;
- a distance controller for controlling a distance between the surface of the sample and the sharpened tip part of the probe;
- a polarization modulator for modulating a direction of polarization of light from the light source device between orthogonal directions in which one of the directions is parallel to a direction in which a width of the tip part of the probe having the metal member monotonically decreases and an other direction which is orthogonal thereto;
- an optical member for irradiating the tip part of the probe having the metal member with light from the polarization modulator;
- at least one detector for detecting signal light which is at least one of radiated from the sample and at least one of reflected and scattered by the sample;
- at least one separator for removing a signal caused by background light and for extracting only a signal of near-field light from a signal outputted from the at least

one detector by using synchronous signal detection with switching of polarization direction by the polarization modulator; and

a signal processor for processing the signal from the at least one separator.

19. (new) An optical apparatus according to claim 18, wherein the probe has a shape of a multi-angular pyramid or a shape of a cone with one face thereof or opposing two faces thereof being provided with the metal member.

20. (new) An optical apparatus according to claim 19, wherein one portion of the faces of the probe other than faces on which the metal member is provided are coated with a predetermined metal so as to provide a non-coated portion of the faces at an end of the tip part which non-coated portion delimits a gap which is smaller than a half-wavelength of the light of the light source device.

21. (new) An optical apparatus according to claim 20, wherein the predetermined metal used for coating is a metal different from the metal member.

22. (new) An optical apparatus according to claim 19, wherein the thickness of the metal member that is provided on the probe is controlled to a predetermined thickness so that the optical apparatus is constructed in such a manner that an optical signal that has passed through the probe as a propagating light and is detected by the at least one detector is suppressed.

23. (new) An optical apparatus according to claim 18, wherein an apex angle of the tip part of the metal member of the probe is 90°.